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LAKE VAN AND TURKISH KURDISTAN: A BOTANICAL JOURNEY

P. H. DAVIS

THE SOUTH-EAST corner of Turkey has always been one of the least known parts of Asia Minor; wild and mountainous, sharing a frontier with 'Iraq and Persia, it is both physically and politically difficult of access. But in the summer of 1954 permission was granted by the Turkish government for me to extend my botanical researches into that area. The small expedition was made under the auspices of Edinburgh University. I was accompanied by Mr. Oleg Polunin, who had been on two expeditions to Nepal, and by Mr. Aydin Bilgutay, a medical student from Istanbul who acted as our interpreter. The primary purpose of our journey was botanical exploration. Turkey has a very rich and comparatively little known flora. Not only does it possess a high percentage of endemics (species confined to Turkey), but it is also on the migration route of the Asiatic flora, part of which has penetrated into Europe by way of Anatolia.

Before I begin my account of what used to be called Turkish Kurdistan and the adjacent part of Armenia (I use the names only in a geographical sense), a few remarks on the general topography of Turkey will not be out of place. Anatolia is bounded to the north and to the south by mountain ranges; between these two barriers lies the Anatolian plateau, cut off by the mountains from much of the rain generated by the Black Sea and the Mediterranean. The plateau has a severe winter, with snow often lying for months; humidity—especially in the summer—is very low, and is the limiting factor that separates the steppe flora from that of the Mediterranean forest and maquis in the south and west parts of the peninsula. In the north, the demarcation of the steppe flora from the rain-soaked forests of the Black Sea, choked with alder and rhododendrons, is abrupt and spectacular; the Pontic Taurus forms a very effective cloud barrier.

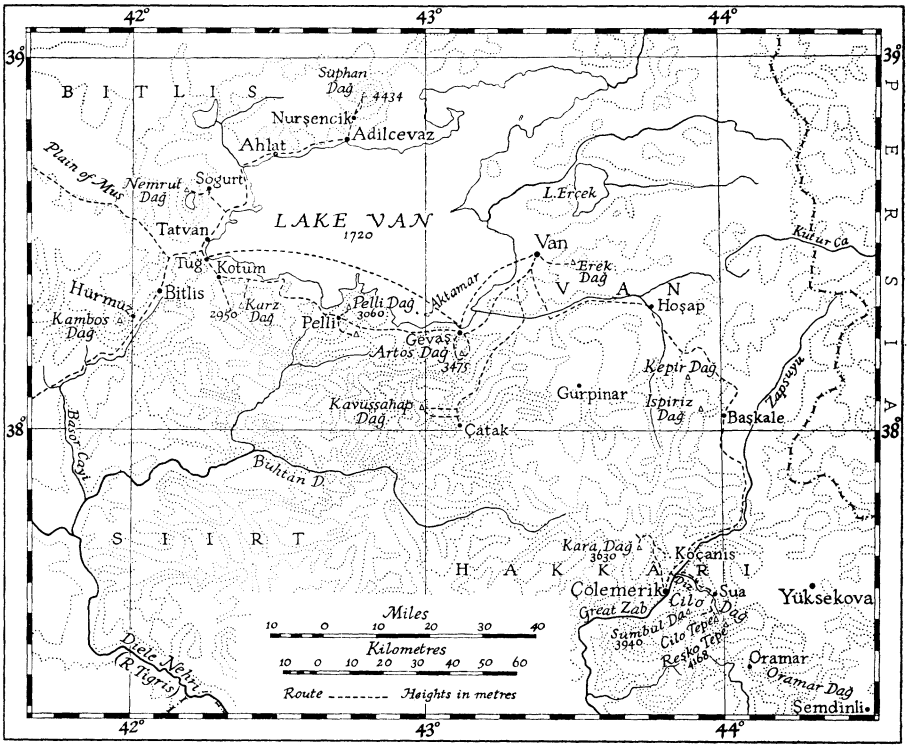
Several factors, in addition to low rainfall and humidity, and extreme winter cold, affect the vegetation of inner Anatolia. Dry winds torture the soft rocks of the plateau into weird forms; violent hailstorms help to erode it away; goats, sheep and camels severely graze the vegetation. The commonest plants are usually those that can best resist excessive grazing—either because they are unpalatable or because they are protected by an armature of spines. Many of the plants that do not possess these features find a foothold in the crevices of cliffs where they are comparatively free from grazing and obtain a stable water supply in the deep fissures of the rock. The botanist looking for rare plants must comb the steepest places.

We reached Lake Van by Land Rover at the end of June, having motored from Ankara by way of Kayseri and Malatya. In the south-west corner of the lake, at Tuğ near the old harbour of Tatvan, we found a new hotel that was clean and spacious, and service which, though inadequate, was well meant: an excellent place for a botanist, encumbered by flower presses, to use as his base.

Lake Van, lying at 1720 metres, has no outlet and contains a high percentage of alkaline salts; the soda content is about 2 per cent., being present in the form of sodium chloride, sodium carbonate and sodium sulphate. There are no fish in the lake except for the endemic *Chalcaburnus tarichi* ("Tarekh"), which is very abundant

where rivers flow into the lake. The fish are caught in spring when they migrate up the rivers to spawn; they are salted by the inhabitants to form an important winter food. On one occasion, looking down on the lake from a cliff near Adilcevaz, we saw a large water snake swimming close to the edge, far from any river mouth; it eventually swam down out of sight into deep water.

The southern shore of the lake shows at least two well-marked raised beaches, one at about 50 metres, the other at nearly 100 metres; these terraces, often clearly marked by differences in the scrub vegetation, are occasionally punctuated by caves—presumably the effect of wave erosion when the waters stood at a much



higher level. Lynch suggests that water from the lake once flowed into the adjacent Tigris (as claimed by Pliny) and that this exit was blocked by outflowing lavas from Nemrut Dağ—the lava plateau that now separates Lake Van from the lacustrine plain of Muş.[1] The result would have been a marked rise in the level of Lake Van. However, we saw extensive evidence of glaciation in the mountains to the south of the lake, and it would be interesting to know if the two major terraces could be related to climatic changes of the Pleistocene.

The water of the lake is extremely buoyant and cleansing; one emerges from it as clean and slippery as a salmon. It is fabulously blue, an enamelled desert of water surrounded by a barren landscape of snowy ranges and extinct volcanoes. Blocks of pumice float in the water, and specks of obsidian spangle the dark sand

[1] Lynch, H. J. B., 'Armenia,' vol. 2. London, 1901.

of its shore—probably brought down from the old crater of Nemrut Dağ where we found it in abundance.

We made some preliminary sorties into the countryside near Tuğ, climbing a spur of Karz Dağ from the little Armenian church at Kotum. At the end of June crimson peonies (*P. arietina*) were a wonderful sight in the limestone ravines. But at this season of the year, at nearly 2000 metres, even the steppe was still a flower garden: mulleins, pinks, yellow skullcaps and violet catmints, sage, vetch, a rosy bird's foot trefoil and numerous genera unfamiliar to us in western Europe kept us busy with flower press and camera. At the hotel we changed thousands of sheets of damp blotting paper, recruiting a gaggle of small boys to dry it for us in the sun.

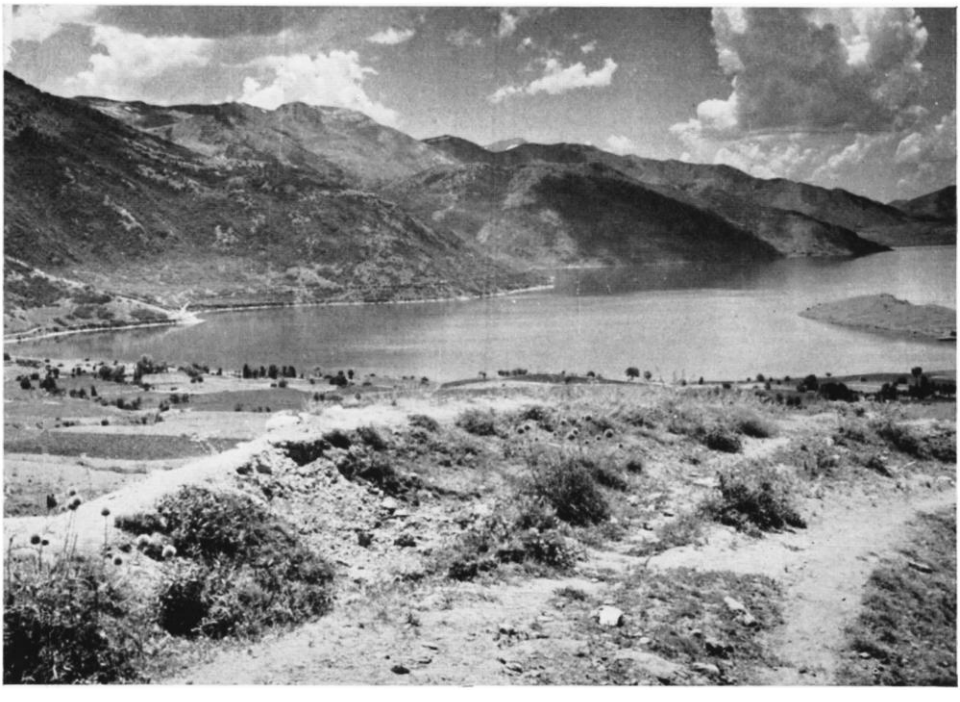
Our first serious climb was Kambos Dağ near Bitlis. The old town of Bitlis is a place of great character and solidity, with mosques and minarets decidedly Persian in character. Here "the infant Tigris," as Murray's Handbook of Asia Minor (1890) picturesquely puts it, "breaks into rapids and cataracts in its passage through the town." In winter, snow lies deep for months, only the tops of the telegraph poles sticking out of the drifts; everyone stays indoors and wolves prowl down the main street. Still centre of a *vilâyet* (administrative province), it is a town in eclipse; Tuğ, busy, new, still little more than a shanty town on the shore of the lake, seems likely to replace Bitlis as the centre of life on the western side of Lake Van. A railway from Malatya has nearly reached it.

From Bitlis we drove our Land Rover to the foot of Kambos Dağ, 20 kilometres to the south-west down the gorge of the Tigris. Here it may well have been that the relics of the Ten Thousand marched through, after they had been harried by the Carduchi—progenitors of the Kurds. We walked to the hamlet of Hürmüz, bowered in walnut groves. How similar these mountain villages are, from the Atlas Mountains to Afghanistan: the little flat-topped cottages built of rough-hewn stone, the tiny unglazed windows, the thorn hedges, the walnut tree (or mulberry) by the communal spring. Two elderly Kurds, in home-spun pantaloons, brought us bowls of *ayran*—a most refreshing drink made by mixing yogurt with iced water. Thus fortified, we set off on a stiff, hot climb up the crumbling limestone slopes, aromatic with thyme, into a wilderness of screes and pinnacles. It was our first hard climb of the season and I remember little except for the glare, our thirst, and a snake that shot out while I was pulling up a plant. When one is feeling extremely tired, collecting can become almost an automatic reflex: one returns to base with flower presses bulging with hundreds of specimens (several of them new to science) but with only the haziest recollection of having gathered them.

At the beginning of July we paid a visit to Nemrut (Nimrud) Dağ, the squat extinct volcano that rises to the north-west of Tuğ. We drove to the tiny village of Sogurt, built of black lava; here the women wore scarlet dresses as though to defy their sombre surroundings. It reminded me of similar places in the Jebel Druze. Rumours that we could drive our Land Rover right into the crater—and out again—proved to be well founded. The outer slopes were gentle, and at about 2600 metres we drove the car over the rim and left it by a large snow patch. Nemrut Dağ is described by Lynch (who first mapped it) as having one of the largest perfect craters in the world, being nearly 8 kilometres across. That may be so, but it must be admitted that the effect, when you are *in* one of the largest craters in the world, is not as impressive as you might expect. The view is decidedly circumscribed. The Quaternary crater of Nemrut Dağ contains one large lake, nearly filling half the crater, and four small ones by which shepherds were grazing their flocks; one grand old man in a turban was busy shearing. There were holes in the ground

Peonies [Paeonia arietina] *on Karz Dağ*

Old Van seen from the Castle



South coast of Lake Van, between Tuğ and Pelli. Scrub oak on hills

through which hot sulphurous gases perpetually belched. The flora was limited, but interesting. Lava plugs were colonized by aspen and birch—the only time I have seen the latter (a northern tree) in Turkey. On the rim of the crater we gathered a new, yellow-flowered species of flax which we were to find on all the mountains we climbed in this region. It is related to a species confined to the top of Mount Hermon 700 kilometres away.

From Tuğ we decided to drive to Van by a little-used track along the southern side of the lake. Most of the traffic from Tuğ to Van goes by steamer (of which there are four on the lake) or by the long road round the less mountainous northern shore. But we had set our heart on the southern route and, after listening politely to several cautionary tales, set off for the village of Pelli which we intended to use as a base for climbing a pair of neighbouring peaks. The solid wheels of oxen carts had played havoc with the track; irrigation channels (often invisible till we were in them) dissected the road; but somehow we made it. Winding and bumping through oak scrub, we arrived at Pelli as the sun sank. The local schoolmaster, forwarned by the *kaymakam* of Tuğ, befriended us and allowed us to set up our beds in the village school. Everyone crowded into the room to stare at us; *ayran* was produced, and a chicken killed for our benefit. After dark the Kurdish villagers, accompanied by the music of itinerant gypsy musicians, set about dancing. We joined in, shuffling round, bobbing up and down till our supper of chicken, rice and yogurt threatened to rebel. Oleg attempted a highland fling (much appreciated) and fell over backwards (which went down even better). We tottered off to bed, worn out, but feeling that Anglo-Turkish relationships had been put on a more human, if unconventional, footing.

The next two days were spent in climbing Pelli (Pili) Dağ that juts out into Lake Van, and an unnamed peak 10 kilometres to the south-east of it. The views were magnificent. To the east and south-east the great snowcapped ranges of Kurdistan, which we were to climb during the next few weeks, lay before us in all their glittering splendour. Below us the lake, without a sign of life upon it, basked in the hot sun.

The flora of the two peaks was rich and in full bloom; *Campanula bornmuelleri* hung out its violet bells in the highest crevices; squat chequered fritillaries bloomed by patches of snow. Although the peaks were only 10 kilometres apart, the difference between their floras was remarkable—due, perhaps, to the different aspect of the slopes we climbed. We drove on eastwards, and saw below us, unapproachable, the island of Aktamar with its Armenian church of the seventh century so miraculously carved. Skirting the north slopes of Artos Dağ, we drove across the plain to Van on the east side of the lake.

Van: what a fascination that name has held for me! And I have not been disappointed. The modern town, it is true, is an architectural misfortune, without character, without charm—but a good base for an expedition; it has a market, well-stocked shops, a dowdy hotel apparently painted with prune juice, some good restaurants offering wine and beer, and a Turkish bath. What more does a traveller need? A pressure cooker? You can buy one in Van.

The magnificence of Van lies in its situation. To appreciate this it is necessary to stay at the tiny hotel on the jetty, 7 kilometres from the town, which puts one to great inconvenience but is worth the trouble. The lines of the shore are softened by bird-haunted marshes; here you can walk in the evening and watch the ripening sun fire the surrounding peaks. To the south of the lake lies the fierce, snowy wilderness of remotest Kurdistan. To the east rises the volcanic double dome of

Erek Dağ—old Varak, which once cradled Armenian monasteries. Limestone escarpments ride the plain, more beautiful even than the hills of Attica in their perfect spacing and proportions. Across the lake to the west lies Nemrut Dağ, like the wide lap of a Buddha, and the black, vast cone of Süphan Dağ; there, according to local tradition, the Ark touched before it came to rest on Ararat.

The castle of Van encrusts a narrow limestone ridge that sails the plain like a battleship. On the south side the cliff drops sheer and bears an inscription commemorating the deeds of Xerxes, son of Darius—"like a sheet of the Times Newspaper" as an earlier traveller put it. Looking down from the castle one sees, as though from an aircraft, the ruins of old Van, unhappy memorial of those reciprocal massacres that are now part of Ottoman history. Little remains beyond the crumbling labyrinth of walls, but a few Islamic domes and minarets—all that stand—are haunted by jackdaws and owls. It is a sad, depressing place, and the new town of Van has wisely turned its back upon it. A university is planned, roads and modern agriculture push forward into the eastern provinces: progress is on the way.

We visited the governor of Van, and called on the security police. We had waited nine months for our permits, but when once permission had been granted by the Government in Ankara we found all the local authorities extremely helpful. Turkey east of the Euphrates is still a military area, and permission to travel within it—particularly if one wants to camp in the mountains—remains very difficult to obtain. On July 13 we motored south to Gevaş at the foot of Artos Dağ (3475 metres), a rather isolated mountain that stands at the south-east corner of the lake. We spent the night in the mayor's office and hired horses and guides for the three days' climb. Approaching the mountain from the west side, we lunched at a *yaylâ* (summer pasture) where Kurdish women were shaking butter in a great earthenware churn suspended by ropes. The narrow track became very steep and petered out; one of the younger horses panicked and rolled down the slope, scattering flower presses far and wide. But everything was at last put in order, and as night fell we pitched camp on the south shoulder of the peak at 3000 metres by a large snow patch. A wolf came and howled at us in the night, causing temporary pandemonium in the camp.

We set off at dawn for the summit—an easy walk over limestone slopes covered with great spiny hummocks of *Astragalus*, *Onobrychis cornuta* and *Acantholimon*; these afford protection to smaller herbs that grow through them. By patches of snow the damp soil was gay with the flowers of alpine buttercups, *Gagea*, *Myosotis* and a new prostrate blue flax related to a Greek species. Artos Dağ, like Pelli Dağ and Karz Dağ, is undoubtedly largely composed of crystalline limestone, although all this region is marked on the Turkish geological map (1/800,000) as "Palaeozoic and crystalline schist." Next day we returned to Gevaş by another route—a rough descent round the east side of the peak and down a precipitous gulley. On a windy ridge at 3000 metres a most beautiful rose-pink *Hedysarum*, with silver leaves, was in full bloom—perhaps the most beautiful alpine of which we were able to get seed. On Artos Dağ and elsewhere we saw obvious signs of Pleistocene glaciation—moraines, tarns, erratics, the valleys of extinct hanging glaciers. In Kurdistan, on nearly every *massif* over 3000 metres, we saw these traces of local glaciation. The glaciers appear not to have descended much below 2600 metres—we never saw moraines near the lake. I have seen similar evidence of glaciation in the Pontic Taurus above Rize, on Bithynian Olympus (Ulu Dağ) and in the Cilician Taurus as far west as Dedegöl Dağ west of Lake Beyşehir.

Back at Van we made a day's excursion to Erek Dağ, very desiccated at the end of July, and then drove south again to the village of Çatak south of Artos Dağ. Çatak lies on a tributary of the Tigris that is full of trout. My interpreter borrowed a blunt trident and, standing in the icy water, speared a dozen by torchlight. We were assured by the peasants that all the streams on the south side of the watershed (*i.e.* flowing into the Tigris) are full of trout, but that none is to be found in the rivers flowing into Lake Van. Çatak lies in a deep valley wooded with oaks (here chiefly *Quercus libani*) and scattered trees of *Acer*, *Sorbus*, *Rhamnus*, and *Pistacia*, In Kurdistan trees are largely confined to the slopes of sheltered valleys; only on the south-west side of the lake, between Pelli Dağ and Tatvan, is there extensive oak scrub, dominated by *Q. infectoria*, on the open hillsides—probably correlated with a higher rainfall there. Even in the valleys trees peter out by 2200 metres as we enter a wide zone of herbaceous vegetation (descending to lake level where trees are absent) dominated by several large, yellow-flowered umbellifers (*Ferula*, *Prangos*, etc.); these are pollinated by vivid beetles and look extraordinarily alike until their fruits indicate to which species they belong. It was through this zonation that we passed as we climbed Kavuşşahap Dağ (over 3500 metres) above Çatak. We camped at 2700 metres, at the top of the umbellifer zone where it gives place to the spiny hummocks of *Astragalus* that I have referred to in my account of Artos Dağ. The shepherds that summer had lost numerous sheep to wolves, and were thinking of pasturing their flocks elsewhere. Between 3000 metres and 3300 metres the *Astragalus* communities give way to a more alpine vegetation on limestone screes. Rare crucifers insinuated their diffuse rootstocks between the loose stones; a most lovely dwarf pea (*Pisum formosum*), with rose-pink flowers hovering like butterflies above the fat glaucous leaves, flowered on the most unstable slopes. By rivulets coming from the melting snow we found a more northern element in the flora: the blue enamel of *Gentiana verna* of Teesdale and the European Alps, growing with the pink *Primula auriculata* and the yellow-flowered *Primula elatior* subsp. *pallasii* (the eastern race of the oxlip).

From Van we were to set off on the journey which I had dreamt of for years: to the province of Hakkâri in the remote south-east corner of Turkish Kurdistan. Our permits being in order, we drove off in much excitement towards this Shangrila where we had every hope of finding a rich, almost unexplored flora, in magnificent surroundings. As we drove south-eastwards from Van the landscape became more desert-like and took on the unearthly reddish tones of a Salvador Dali landscape. We passed the castle of Hoşap, once a stronghold of rebel Kurds, standing immensely impressive and almost Scottish baronial on an isolated rock. A long line of camels crossed the beautiful sixteenth century bridge, banded in black and white stone like a Florentine building. The road began to rise, zigzagging up the metamorphic flank of Kepir Dağ, then down towards the village of Başkale that looks across the upper waters of the Greater Zab to the frontiers of Persia. Başkale is an armed camp, a little, dirty mountain village whose *raison d'être* is to provide a locus for a military base. We stayed there long enough to climb Ispiriz Dağ (3587 metres) that rises steeply behind the village. In the umbellifer zone of the lower slopes grew a plant, familiar enough in the garden, that I had never seen wild before: the oriental poppy (*Papaver orientalis*). How fabulous, indeed how out of place, those great, scarlet, black-centred flowers looked on the bare mountain side! On Ispiriz Dağ a wide band of serpentine rock intersects the marble that forms the summit and lower slopes of the mountain. Such petrographic contrasts have their effect on the flora. The marble summit screes, which from a distance looked empty of

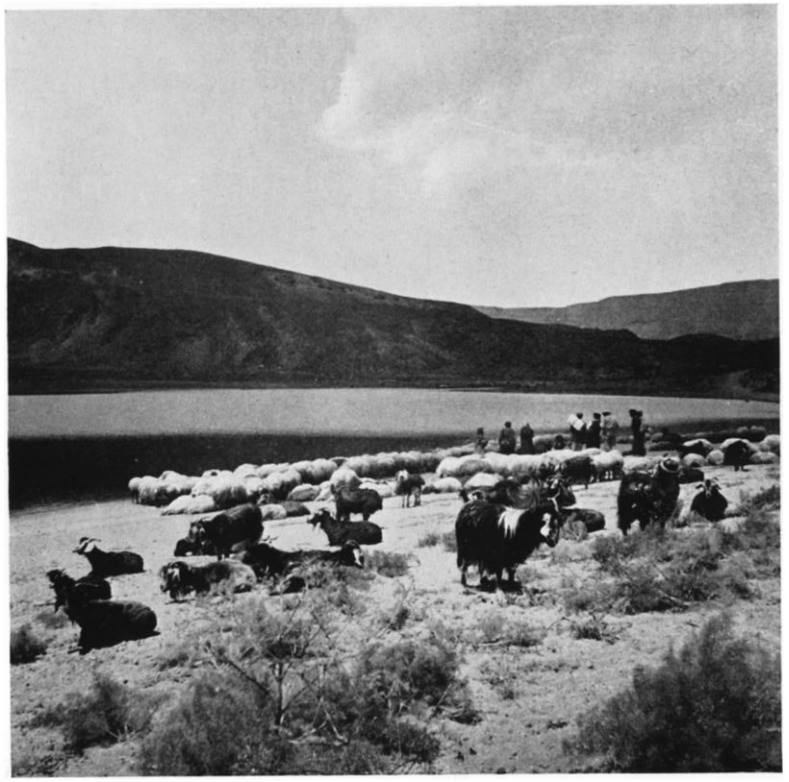
vegetation, proved to be scattered with rare alpines, many of which we did not see elsewhere. The affinities of the flora were decidedly Persian.

From Başkale we drove on southwards, entering the upper part of the Zab gorge. A lorry driver coming up from Çölemerik (our destination) warned us of smugglers and bears, but we spent a quiet enough night beside the rushing torrent. The road to Çölemerik has a reputation for extremely dangerous bends and a boulder-strewn surface; and indeed we did see the skeleton of more than one lorry upside down in the river that swirled hundreds of feet below us. But the surface of the road is now greatly improved, and lorries rumble along it nearly every day during the summer, bringing supplies to Çölemerik; the village is cut off by snow for five months of the year. As one descends the gorge of the Zab—the largest tributary of the Tigris—the scenery becomes increasingly savage. The river seems to follow a fault in the rock, for the cliffs are often limestone on the east side of the gorge, and slate or schist on the west. The road passes through several tunnels, and at last emerges on to a sloping terraced shelf about 300 metres above the river. This is Çölemerik, the administrative centre of Hakkâri, a village widely scattered through fields and gardens, having no natural focus behond the administrative one where the new Government buildings, built to standard pattern with a roof of corrugated metal, dwarf the rest of Çölemerik. Except for the ruins of a pleasant khan (relic of the days when the Kurds migrated to and from the plains of 'Iraq), the place has no attractive architecture. But, built as the village is on a lip of the Zab gorge, it does have a magnificent situation. The great precipice of Sümbül Dağ frowns down on Çölemerik; yet it is inaccessable across the gorge.

The very mention of Hakkâri is enough to draw groans of commiseration from any western Turk. "The road! The people! The dirt! There is nothing to eat—take everything with you!" If such an unhappy reputation was ever justified it is not so now. The road is better than many I have been on in Turkey. Çölemerik, it is true, has no hotel and nothing that can by courtesy be called a restaurant. But everyone helps, and our stay in the province of Hakkâri was, I think, one of the most pleasant of my Turkish experiences. We had an introduction to the Director of Education and were allowed to set ourselves up in the secondary school. This suited us excellently, since it gave us plenty of room for our luggage and a certain amount of that privacy which a scientist yearns for when he is travelling in the Nearer East. The school's ping-pong table proved ideal for changing the papers in the flower presses.

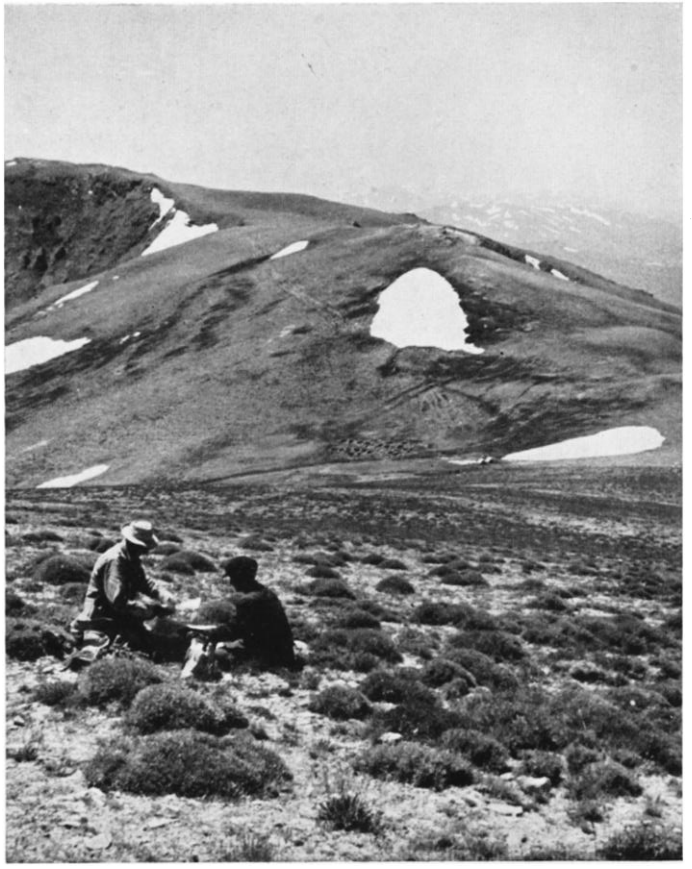
In Hakkâri we had two main objectives: Cilo Dağ and Kara Dağ, on opposite sides of the Zab gorge. We decided to tackle the more difficult Cilo *massif* first, going by the shorter, rougher route. We had been recommended to approach the mountain from Yüksekova (Gevar) on the east, but that would have taken more time than we had at our disposal. Instead, we followed the route which Earl Percy had taken in 1889.[1] Reliable Kurdish guides were chosen and sturdy horses found to carry our equipment for a week. On August 6 we forded the Zab near a police post, at its confluence with the Diz tributary. This was no easy matter, as a thunderstorm had left the river in spate. It was here nearly a hundred yards wide and flowing swiftly. The luggage was piled as high as possible on the horses' saddles and the animals driven across the river by naked Kurds who tested the river-bed with staves. We clung on as best we could and reached the other side with nothing worse than a few wet flower presses. This route can only be practicable in late summer. Earlier in the year melting snow must make it impassable; as it was, we

[1] Percy, Earl (Lord Wankworth), 'Highlands of Asiatic Turkey.' London, 1901.

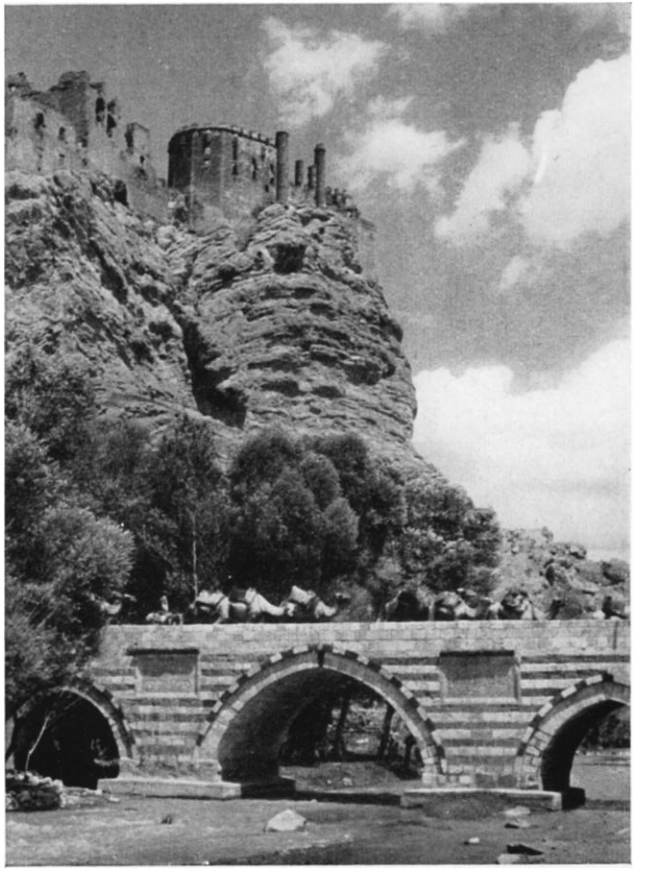


Small crater lake on Nemrut Dağ

Süphan Dağ: a crater lake a 4000 m.



Artos Dağ: zone of spiny Astragalus



Castle and bridge at Hoşap

had to cross the Diz torrent several times. I should like to say a word about our Kurdish guides. We found them most reliable and glad of any opportunity to test their courage. They do much to make travel in Kurdistan much easier than it would otherwise be. Travelling in parts of the Cilician Taurus and Anti-Taurus is much more difficult because of the trouble one has in those regions in finding reliable guides and sufficient pack animals.

We followed the Diz valley right into the heart of the Cilo *massif*. Abandoned Nestorian churches stood perched on the valley sides. Here, as elsewhere in the provinces of Van and Hakkâri, we saw traces of old terraces, vines and figs run wild. Until the present century and the final exodus of the Nestorians, Hakkâri must have been relatively prosperous. But agriculture has been almost abandoned, the Kurd being more interested in his flocks than in the refinement of cultivation. This lack of interest in the land is one of the most difficult problems that modern Turkish governments have had to face in eastern Anatolia. It was in the gorge of the Diz valley that we made one of our most exciting botanical discoveries: a new species of *Primula*. It grew in crevices of apparently dolomitic limestone, and was in seed at the time of our visit. It has grown well and already flowered at the Royal Botanic Garden, Edinburgh: a very dwarf species with deep yellow flowers. Crab apples grew in the gorge (descended, perhaps, from Nestorian orchards), and we saw where their branches had been torn down by the bears that were very numerous here. We had lunch beneath a rock where, the Kurds assured us, a shepherd had been mauled to death a month before. When a bear had carried off one of the lambs, the shepherd had stoned the beast—with the not unexpected result. There is a widespread belief in Hakkâri that white bears exist in the Cilo Dağ—white all the year round. However, it must be admitted that the Kurds are singularly prone to shaggy bear stories, especially ones about bears carrying off young brides. The bear is no doubt a convenient scapegoat for an occasional abduction.

We left the Diz valley near the hamlet of Sua (Suga?), and climbed steeply to Cilo *yaylâ* below the magnificent pyramid of Cilo Tepe (about 4100 metres). Here we pitched camp for three days at 3000 metres, thanks to our guides on excellent terms with the Kurds who were encamped there for the summer. The scenery here is the most magnificent in Turkey, resembling nothing so much as the Dolomites. The great limestone cliffs (marked on the map as of Eocene age) are banded by dark volcanic intrusions. Even in mid-August snowfields are extensive. A small living glacier was recently described by a Turkish geographer as flowing from the north side of Reşko Tepe (4168 metres, the highest peak in the massif), but unfortunately we did not have time to reach it.[1] Barren though this splendid *massif* looks, it has a rich flora that is very different from the rest of Turkish Kurdistan. We collected 400 species in less than a week, and there is no doubt that a considerable number of these are new to science.

From the pass over Cilo Tepe we looked across to the mountains of Oramar and towards Şemdinli that at once became, now that we had at last reached Hakkâri, the botanist's ultimate goal; but that will have to wait for another year. We descended once more into the Diz valley where my guide sprained his ankle. "I cannot move," he groaned. "Night is coming on. The bears will get us." "Oh, no they won't!" I said, and coaxed, pulled, bullied and bribed the poor man till I got him down the ravine to rejoin the rest of the party who had wisely followed the path. By the time we reached the Zab the flood water had somewhat

[1] Izbirak, Reşat. 'Cilo Dağı ve Hakkâri ile Vangölü çevresinde coğrafya araştirmalari. Ankara, 1951.

subsided and we were able to get back to Çölemerik with a wonderful collection of plants.

Before climbing Kara Dağ north-west of Çölemerik, Oleg Polunin paid a visit to the Nestorian church at ruined Koçanis. It stands on a tongue of land falling precipitously to ravines on either side, and is far superior to the little churches we had seen scattered in the Cilo Dağ. Koçanis was once the headquarters of the Nestorian patriarchs. In the sixth century the power of the Nestorian Church extended from Jerusalem to China. In the fourteenth it was the largest communion in Christendom, outnumbering both the Greek and the Roman Churches. Then it collapsed. Persecuted by Tamurlane, its patriarch and surviving followers were pushed back into this wild corner of Kurdistan. In 1890 the famous Patriarch Mar Shimum was visited by the indomitable Isabella Bird (Mrs. Bishop—the first woman Fellow of the R.G.S.). She has given the most fascinating account of Koçanis in its decline, its inhabitants raided and persecuted by the turbulent Kurds.[1] Now no Nestorians (apart from a few converted to Islam) remain in Turkey, though the sect survives over the frontier in 'Iraq and has outposts elsewhere. Many of the beautiful striped clothes worn by the Kurds are woven by Nestorians in 'Iraq. Even the sign of the Cross persists, woven into woolly Kurdish socks, its significance forgotten or ignored.

From Çölemerik a rough road to Van (via Gürpinar) passes over the east flank of Kara Dağ; until recently this road was open for about a fortnight each year, in late August or September, when the snow melts away on the 3000-metre passes. But at the time of our visit snow still blocked the road, and the authorities of Hakkâri and Van had not collaborated to clear it; with the road through the Zab gorge so much improved, there is little incentive to maintain the higher, more direct route to Van. We drove as far as we could, and camped at the *yaylâ* of Sheikh Selim Bey. The *Ağa* is the spiritual leader of the Kurds in this district of Turkey, and a most remarkable, wise and influential old gentleman. He was very animated, with a white, well-combed beard and bird-like eyes that were never still. Guests were always coming and going, and we spent a most interesting day, reclining on carpets and cushions, and eating an endless and rather mysterious meal, like an oriental Burns supper, washed down with innumerable glasses of sweet tea. The glasses were perpetually refilled until we laid them on their sides. Kara Dağ has a geology that differs considerably from that of the mainly calcareous Cilo *massif*. Its lower slopes (bristling with species of *Echinops*, *Cirsium* and *Eryngium*) consist of a greenish metamorphic rock (chloritic schist?), but the summit is undoubtedly granite—over 200 kilometres from the nearest outcrop (Toraman Dağ, north-west of Lake Van) marked on the Turkish geological map (1/800,000). There can be no doubt that this region of Turkey would be a wonderful place for geological research. Evidence of Pleistocene glaciation, well-marked on Cilo Dağ, was even more noticeable on Kara Dağ. Although late in the season (August 16) there were streams and flushes that supported a decidedly northern element in the alpine flora —gentians, primulas, moonwort, even a sedge that in Britain is confined to Ben Lawers (*Carex microglochin*). The botanical interest of Kurdistan owes much to this meeting of northern and southern floras. The phenomenon is related to the climatic changes of the Pleistocene and the varied ecological niches which the area provides for survival.

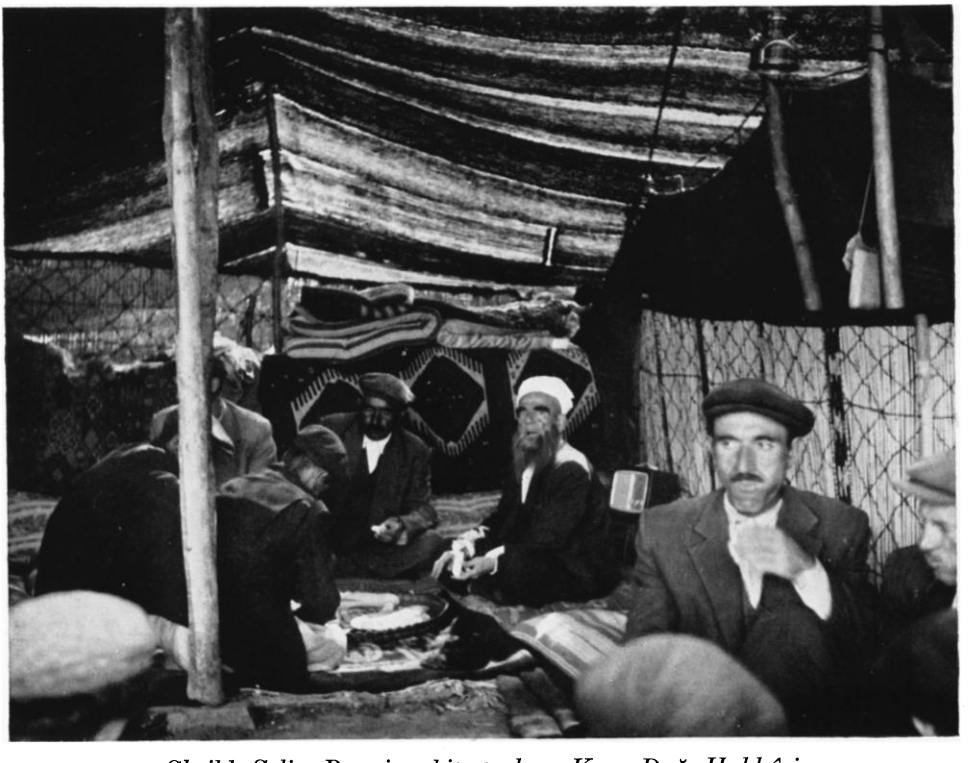
We returned to Van by way of the Zab gorge. By the lake the corn had been cut, and threshing and winnowing were in full swing. Bullocks, pulling sledges bearing

[1] Bird, I., 'Journeys in Persia and Kurdistan,' vol. 2. London, 1891.

Crossing the Zab above Çölemerik

Zab gorge at Hakkâri

Sheikh Selim Bey's encampment on Kara Dağ, Hakkâri



Sheikh Selim Bey, in white turban, Kara Dağ, Hakkâri

revolving blades, plodded round and round, threshing out the grain. Clouds of golden chaff rose in the air, tossed up by the wide winnowing forks. The whole landscape was a glorious symphony of muted yellows and old ivory, hill and plain bleached by months of sun; the snow had left all but the highest summits of Kurdistan. Only one major peak remained to be climbed: Süphan Dağ. With some difficulty we got our Land Rover on board the steamer, crammed with soldiers and gaily dressed Kurdish peasants, and sailed uneventfully to Tuğ.

We gathered seeds in the neighbourhood, climbed Karz Dağ for the second time, and then drove off round the west shore of the lake. We passed the thirteenth century Seljuk mausolea of Ahlat, built out of a rather unpleasant reddish lava, their conical roofs clearly "inspired" by Armenian churches. Most of these mausolea have none of the grace of the best Seljuk buildings in Konya, Karaman or Niğde. The Seljuk tombs of Ahlat are well known, but one hears little about the great moslem cemetery of the same period where thousands of gracefully carved headstones, leaning this way and that, cover the plateau for a vast area; they were, we thought, far more beautiful than those rather oppressive tombs. We drove on, ploughing over tracks several inches deep in volcanic dust, and reached the village of Adilcevaz near the foot of Süphan Dağ. We found an inn, and visited the most helpful *kaymakam* who arranged for horses to meet us next morning at the village of Nurşencik. The sun was rising when we drove into the little village, a cluster of low, mud-brick houses interspersed with cones of dried dung blocks. These dung cones are a characteristic feature of the plateau landscape, and, in the absence of wood, provide the villagers with fuel. As very little manure gets on to the land, crops are poor. The Government is doing its best to improve matters by sending artificial fertilizers to the eastern provinces.

Although the second highest peak in Turkey, Süphan Dağ is nevertheless one of those mountains that are better seen from a distance. All day we zigzagged our way up black dusty slopes covered with a mass of fruiting umbellifers, thorny *Astragali* and savage thistles—not a tree or shrub to be seen. Water was scarce, as it always is on these volcanic mountains of inner Anatolia. Towards evening we reached the broken rim of the crater and pitched our tents at nearly 4000 metres by a little lake. Blocks of ice floated in the water, and a glittering ice face clung to the shaded wall of the crater. At night the lake froze over. Despite its greater height, the mountain obviously gets much less snow than the main block of Kurdish peaks to the south-east. On August 26, climbing laboriously up the great lava blocks as though we climbed an endless pyramid of Cheops, we reached the top. The summit (4434 metres) consists of an eruptive mass of lava that has risen on the earlier rim of the crater and appears to have blown part of the latter away. A score of alpine plants had secured a foothold at the top, and we came upon a dead hedgehog—dropped, an ingenious Turk suggested, by one of the Lammergeyers that hopefully circled the peak. The view was worth the climb. To the south all the ranges of Kurdistan, as far as the Cilo Dağ, could be seen beyond the lake. To the north-west lay the pallid plateau, shimmering in the heat, and beyond, without a cloud upon it, the highest mountain in Turkey 150 kilometres away: forbidden Ararat, its great 5156-metre cone white with perpetual snow. We returned to the lake and got ready to make for home. Nearly three thousand gatherings of pressed plants (in quintuplicate) were packed away in crates, a most satisfactory haul from a part of Turkey whose plant life was almost unrepresented in British herbaria. Then we drove to the Black Sea, its forest dark with rain, and on to the fleshpots of Istanbul. The quail had arrived before us.